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FISSURE ERUPTIONS.

THOSE who have been accustomed to regard volcanoes such as Vesuvius or Etna as the one form of volcanic action, may be somewhat startled by the statement that lavas have sometimes been poured forth from fissures hundreds of miles in length, and have deluged vast tracts of country beneath sheets of molten rock, compared with which the puny lava-fields of Italy sink into insignificance. History, romance, and legend have been so long associated with the group of volcanoes overlooking the quiet Tyrrhenian Sea, that from the time when Pindar sung of the fire-floods of Etna, and Pliny died, too rashly investigating the great eruption of Vesuvius, till Scrope, Lyell, Von Buch, and Palmieri made them the centre of their researches, they have occupied too large a share of attention, and have been thus regarded as the full normal development of that volcanic activity of which they are but a phase, and only a minor phase. Hence, when, eighteen years ago, Richthofen described the great lava-plains of Western America, and attributed their origin to ejection from fissures, and not from vents, so firm a hold had been taken of the minds of geologists by nearly twenty centuries of observation of Vesuvius and its fellows, that his arguments were received with incredulity; and though they have been amply verified by subsequent investigations, and have afforded the clue to the interpretation of the vast series of volcanic rocks in other quarters of the globe, they have not been generally circulated, and few, outside the circle of geologists, are acquainted with them.

In this paper, we propose briefly to describe some of the most noted of these 'fissure'—or as Richthofen called them—'massive' eruptions, selecting as types that on the Snake River in the United States, and those in India, Abyssinia, and the north-west of Europe; and finally, to glance at their possible connection with the form of volcanic excitement more frequently displayed.

The one which has attracted most attention is

that which formed the plateau of the Snake River, and which covers altogether, in Idaho, Oregon, and Washington, an extent of country equal to France and Great Britain combined. The district is one wide verdureless waste of black basalt, stretching westwards from the mountains by which it is bounded on the north and east, as an apparently boundless desert, black and bare, as though it had but recently cooled. Except for the shifting sand-dunes and slight ridges of basalt extending like long low waves or ground swells—to which Professor Geikie compares them—the surface would be quite level, the lava having either been poured over a plain, or having buried the undulations of the country beneath hundreds of feet of stone. The columnar structure, so often adopted by basalt, is here largely developed, and to it is due the tessellated appearance of the rock, which adds another to the many striking features in the scenery of the district. The only river in the district is the Snake River, which winds its way to the Pacific through a cañon seven hundred feet deep, and which is joined, through underground courses, by the few streams that flow on to the basalt from the neighbouring mountains, and soon sink beneath the surface.

The Director-general of the Geological Survey visited the district five years ago, and his graceful pen has thus described his first view of this great lava desert: 'We had been riding for two days over fields of basalt level as lake bottoms among the valleys, and on the morning of the last day we emerged from the mountains upon the great sea of black lava which seems to stretch illimitably westwards. With minds keenly excited by the incidents of the journey, we rode for hours by the side of that apparently boundless plain. Here and there, a trachytic spur projected from the hills, succeeded now and then by a valley, up which the black flood of lava would stretch away into the high grounds. It was as if the great plain had been filled with molten rock, which had kept its level, and wound in and out along the bays and promontories of the

mountain slopes, as a sheet of water would have done.'

The feature, however, that most struck Professor Geikie, as it had done previous observers, was the absence of ash and scoria, and of any crater where the eruption could have occurred. There are indeed a few cinder cones, but they are analogous—as he says—to the smaller cones on the flanks of a volcano, or more so to those around the vapour-vents on the surface of lava-streams. Such vast masses of lava were certainly not ejected from these, nor in the ordinary method of volcanic emission. We are therefore forced to accept Richthofen's theory, that they are due to a series of eruptions from fissures which stretched across the country for several hundreds of miles, but are now hidden by the sheets of stone in which, since no very remote period, the district has been unwrapped. Geologically speaking, this must have been recent, as is evidenced by the lava-floods having covered the present valleys, and having sealed up the gravel and silt of their lakes and rivers; but sufficient time has elapsed to have allowed of the erosion of the picturesque ravine of the Snake River; and in so dry a climate and on so hard a rock, this must have been slow work, though in all probability it does not carry back the date of the event beyond the human occupation of the continent. It is by no means impossible that man may have witnessed the last of these eruptions from the summit of the trachyte hills at the base of which was eddying this ocean of molten rock.

Another series of volcanic rocks that has long been a source of perplexity to geologists is that which, covering two hundred thousand square miles of India, is known as the Deccan Traps. Though the separate lava-flows are of no great thickness, they attain a total of six thousand feet, exclusive of the 'intertrappean' fresh-water deposits with which they are associated. The rock is mainly dolerite or basalt, but is very variable, and in many places it exhibits spheroidal or columnar structure; unlike, however, that of the Snake River, volcanic ash is common. The plateau formed by these deposits consists of a vast undulating plain, and of flat-topped hills with occasional 'scarps' or cliffs, which in the Sahyadri range are four thousand feet high, the whole being marked by terraces along the outcrop of the horizontal layers of basalt. In many points, the scenery of this district is much like that of the Snake River; but, owing to the greater age of the beds—belonging to the Cretaceous or chalk group—they are more weathered, and covered by a thin soil formed by the disintegration of the rock beneath, bear a slight vegetation. This, however, heightens the monotony, as it consists of a simple covering of straw-coloured grass; though, from March, when the grass is burnt, till the commencement of the rainy season in June, the black soil, the black rocks, and the black ashes of the vegetation, combine to produce a scene of the most solemn desolation. The scene can be well viewed from the railway between Bombay and Nagpur, which traverses this plateau for five hundred and nineteen miles without once leaving the lava.

Many ingenious theories have been started to explain the origin of these lava-fields. Some

writers, as Newbold, hold that the beds were ejected from submarine volcanoes; but this is conclusively disproved, since no marine fossils are associated with them, and as the minute dust—due to the shattering of the ash and ejected masses by the sudden cooling—so characteristic a feature in subaqueous eruptions, is wholly absent. According to another school, of which Hislop and Carter were the leaders, the lavas were poured over the bottom of an enormous lake, in places 'so shallow as to allow the igneous rock to rise above its surface into the atmosphere,' thus giving rise to beds of ash; but as this assumes the existence of a vast fresh-water lake hundreds of miles long and broad and shallow throughout, for which no evidence has been adduced, this theory is discredited. One of the latest writers upon the subject—Mr W. T. Blanford of the Indian Geological Survey—rejecting the former hypotheses, argues for the former existence of volcanic foci in Cutch, in the lower Narbada valley and near the Sahyadri range, to the east and north-east of Bombay, though he admits that if his theory be true, the lava must have flowed for immense distances, and hence postulates its excessive fluidity. The possibility, however, of the rock having done so on a surface quite horizontal, and in the semi-fluid viscous condition in which most basic lavas are erupted, presents insuperable difficulties, and there is now hardly any doubt that these Deccan Traps were ejected in the same manner as were those of the Snake River.

For our knowledge of the series of volcanic rocks that covers the greatest part of Abyssinia, we are also largely indebted to Mr Blanford, who explored the district during the expedition of 1867. These rocks, widespread though they be, are but the remnants, as are also those of Arabia, of a fissure eruption that inundated Abyssinia and Southern Arabia to a depth of two or three thousand feet.

Nearer home, in North-western Europe, are the relics of the same form of volcanic activity, as evidenced by those disconnected patches of lava-streams and trap dikes, which, scattered over the north of Ireland, the Highlands of Scotland, and the northern counties of England, form such prominent features in the landscapes of those districts, as in the columnar basalts of Fingal's Cave and the Giants' Causeway, and the igneous dikes that cross, like walls of rock, the hills of our northern counties. The area that this eruption covered was at least one hundred thousand square miles; while, as it probably extended to the Faeroes and Iceland, it may have been much larger. We are not left, as in the case of the Snake River, without evidence as to whence this mass of rock has come, for, since the Miocene Age, when it was ejected, denudation has attacked the district, and sea, stream, and ice have carried off most of the three thousand feet of lava that then covered the land, and have left but a few scattered fragments on which to reconstruct the record of the event. In doing so, they have bared the roots of the old fissures whence this mighty flood must once have welled; and we thus learn that we must trace its source to the long dikes that now stretch over the district, crossing from formation to formation, and traversing dislocations of thousands of feet without any break or change. Such dikes can

be traced from end to end of the region, from Donegal to Fife, and from Yorkshire to the Faroes, increasing in numbers as we approach the volcanic regions of Antrim and the Hebrides. They did not all reach and overflow the surface, as is conclusively proved by Scotch mining operations, and by the fact that they sometimes disappear, to rise again elsewhere on the same line. Such may have been the case with all those of Yorkshire, as the evidence by which we might decide has all been swept away. Nevertheless, we know that a vast district was covered by the great fire-flood which was poured over the tropical forest that then flourished on the site of the Scottish Highlands.

From this brief description of the most important of these old fissure eruptions, we see that there is another and a grander phase of vulcanism than that now displayed either by Vesuvius or Hecla. This is unquestioned, and the sphere of speculation is removed to the relation between the two classes. It is to Richthofen that we owe the most plausible theory: he considers these massive eruptions as the fundamental development, and 'modern volcanic cones as merely parasitic excrescences on the subterranean lava reservoirs, very much in the relation of minor cinder cones to their parent volcano.' Thus the form regarded till recently as the one method of volcanic ejection, appears to be of but secondary importance, being merely a safety-valve to relieve the pressure from the lava-resources below; or may represent but a feebleness and waning condition of that volcanic excitement of which they have so long been regarded as the type.

IN ALL SHADES.

CHAPTER XI.

It is a truism nowadays, in this age of travelling, that you see a great deal more of people in a few weeks on board ship at sea together than you would see in a few years of that vacant calling and dining and attending crushes which we ordinarily speak of as society. Nora Dupuy and the two Hawthorns certainly saw a great deal more of Dr Whitaker during their three weeks on board the *Severn* than they would ever have seen of him in three years of England or of Trinidad. Nora had had the young man's acquaintance thrust upon her by circumstances, to be sure; but as the Hawthorns sat and talked a great deal with him, she was compelled to do so likewise, and she had too much good feeling to let him see very markedly her innate prejudice against his colour. Besides, she admitted even to herself that Dr Whitaker, for a brown man, was really a very gentlemanly, well-informed person—quite an exceptional mulatto, in fact, and as such, to be admitted to the position of a gentleman by courtesy, much as Gulliver was excepted by the Houyhnhnms from the same category of utter reprobation as the ordinary Yahoos of their own country.

Most of the voyage was as decently calm as any one can reasonably expect from the North Atlantic. There were the usual episodes of flying-fish and Mother Carey's chickens, and the usual excitement of a daily sweepstake on the length

of the ship's run; but, on the whole, the only distinct landmarks of time for the entire three weeks between Southampton and St Thomas were breakfast, luncheon, dinner, and bedtime. The North Atlantic, whatever novelists may say, is not a romantic stretch of ocean; and in spite of prepossessions to the contrary, a ship at sea is not at all a convenient place for the free exercise of the noble art of flirting. It lacks the needful opportunities for retirement from the full blaze of public observation to shy corners; it is far too exposed, and on the whole too unstable also. Altogether, the voyage was mostly a monotonous one, which is equivalent to saying that it was safe and comfortable; for the only possible break in the ordinary routine of a sea-passage must necessarily be a fire on board or a collision with a rival steamer. However, about two days out from St Thomas, there came a little relief from the tedium of the daily situation; and the relief assumed the unpleasant form of a genuine wild West Indian hurricane.

Nora had never before seen anything like it; or, at any rate, if she had, she had clean forgotten all about it. Though the captain had declared it was 'too soon' for hurricanes, this was, in fact, a very fine tropical tornado of the very fiercest and yeastiest description. About two o'clock in the afternoon, the passengers were all sitting out on deck, when the sea, till then a dead calm, began to be faintly ruffled by little whiffs and spurts of wind, which raised here and there tiny patches of wavelets, scarcely perceptible to the blunt vision of the unaccustomed landsman. But the experienced eye of a sailor could read in it at once a malignant hint of the coming tempest. Presently, the breeze freshened with extraordinary rapidity, and before five o'clock, the cyclone had burst upon them in all its violence. The rush of a mighty gale was heard through the rigging, swaying and bending the masts like sapling willows before the autumn breezes. The waves, lashed into fury by the fierce and fitful gusts of wind, broke ever and anon over the side of the vessel; and the big *Severn* tossed about helplessly before the frantic tempest like the veriest cockboat in an angry sea upon a northern ocean. Of course, at the first note of serious danger, the passengers were all ordered below to the saloon, where they sat in mute suspense, the women pale and trembling, the men trying to look as if they cared very little about it, while the great ship rolled and tossed and pitched and creaked and rattled in all her groaning timbers beneath the mad frenzy of that terrific commotion.

Just as they were being turned off the decks to be penned up down-stairs like so many helpless sheep in the lower cabin, Nora Dupuy, who had been standing with the Hawthorns and Dr Whitaker, watching the huge and ever-increasing waves bursting madly over the side of the vessel, happened to drop her shawl at starting on to the deck beside the companion-ladder. At that very moment, a bigger sea than any they had yet encountered broke with shivering force against the broadside of the steamer, and swept across the deck in a drowning flood as though it would carry everything bodily before it. 'Make haste, there!' the captain called out

imperatively.—'Steward, send 'em all down below, this minute. I shouldn't be surprised if before night we were to have a capful of nasty weather.'

But even as he spoke, the wave, which had caught Nora's shawl and driven it over to the leeward side, now in its reflux sucked it back again swiftly to windward, and left it lying all wet and matted against the gunwale in a mass of disorder. Dr Whitaker jumped after it instinctively, and tried to catch it before another wave could carry it overboard altogether. 'Oh, pray, don't trouble about it,' Nora cried, in hasty deprecation. 'It isn't worth it. Take care, or you'll get wet through and through yourself before you know it!'

'The man's a fool,' the unceremonious captain called out bluntly from his perch above. 'Get wet indeed! If another sea like that strikes the ship, it'll wash him clean overboard.—Come back, sir; I tell you, come back! No one but a sailor can keep his feet properly against the force of a sea like that one!'

Nora and the few other passengers who had still remained on deck stood trembling under shelter of the glazed-in companion-ladder, wondering whether the rash mulatto would really carry out his foolhardy endeavour to recover the wrapper. The sailor stood by, ready to batten down the hatches as soon as the deck was fairly cleared, and waiting impatiently for the last lingerer. But Dr Whitaker took not the slightest notice of captain or sailor, and merely glanced back at Nora with a quiet smile, as if to reassure her of his perfect safety. He stood by the gunwale, just clutching at the shawl, in the very act of recovering it, when a second sea, still more violent than the last, struck the ship once more full on the side, and swept the mulatto helplessly before it right across the quarter-deck. It dashed him with terrific force against the bulwarks on the opposite side; and for a moment, Nora gave a scream of terror, imagining it would carry him overboard with its sudden flood. The next second, the ship righted itself, and they saw the young doctor rising to his feet once more, bruised and dripping, but still not seriously or visibly injured. The sea had washed the shawl once more out of his grasp, with the force of the shock; and instead of rushing back to the shelter of the ladder, he tried even now to recover it a second time from the windward side, where the recoil had again capriciously carried it. 'The shawl, the shawl!' he cried excitedly, gliding once more across the wet and slippery decks as she lurched anew, in the foolish effort to catch the worthless wrapper.

'Confound the man!' the captain roared from his place on the bridge. 'Does he think the Company's going to lose a passenger's life for nothing, just to satisfy his absurd politeness!—Go down, sir—go down, this minute, I tell you; or else, by jingo, if you don't, I shall have you put in irons at once for the rest of the voyage.'

The mulatto looked up at him with a smile and nodded cheerfully. He held up his left hand proudly above his head, with the dripping shawl now waving in his grasp like a much bedraggled banner, while with his right he

gripped a rope firmly and steadily, to hold his own against the next approaching billow. In a second, the big sea was over him once more; and till the huge wall of water had swept its way across the entire breadth of the vessel, Nora and Marian couldn't discover whether it had dashed him bodily overboard or left him still standing by the windward gunwale. There was a pause of suspense while one might count twenty; and then, as the vessel rolled once more to port, Dr Whitaker's tall figure could be seen, still erect and grasping the cable, with the shawl triumphantly flourished, even so, in his disengaged hand. The next instant, he was over at the ladder, and had placed the wet and soaking wrapper back in the hands of its original possessor.

'Dr Whitaker,' Nora cried to him, half laughing and half pale with terror, 'I'm very angry with you. You had no right to imperil your life like that for nothing better than a bit of a wrapper. It was awfully wrong of you; and I'll never wear the shawl again as long as I live, now that you've brought it back to me at the risk of drowning.'

The mulatto, smiling unconcernedly in spite of his wetting, bowed a little bow of quiet acquiescence. 'I'm glad to think, Miss Dupuy,' he replied in a low voice, 'that you regard my life as so well worth preserving.—But did you ever before in all your days see anything so glorious as those monstrous billows!'

Nora bit her lip tacitly, and answered nothing for a brief moment. Then she added merely: 'Thank you for your kindness,' in a constrained voice, and turned below into the crowded dining saloon. Dr Whitaker did not rejoin them; he went back to his own stateroom, to put on some dry clothes after his foolhardy adventure, and think of Nora's eyes in the solitude of his cabin.

There is no position in life more helplessly feeble for grown-up men and women than that of people battered down in a ship at sea in the midst of a great and dangerous tempest. On deck, the captain and the officers, cut off from all communication with below, know how the storm is going and how the ship is weathering it; but the unconscious passengers in their crowded quarters, treated like children by the rough seafaring men, can only sit below in hopeless ignorance, waiting to learn the fate in store for them when the tempest wills it. And indeed, the hurricane that night was quite enough to make even strong men feel their own utter and abject powerlessness. From the moment they were all battered down in the big saloon, after the first fresh squall, the storm burst in upon them in real earnest with terrific and ever-increasing violence. The wind howled and whistled fiercely through the ropes and rigging. The ship bounced now on to the steep crest of a swelling billow; now wallowed helplessly in the deep trough that intervened between each and its mad successor. The sea seemed to dash in upon the side every second with redoubled intensity, sweeping through the scupper holes with a roar like thunder. The waves crashed down upon the battered skylights in blinding deluges. Every now and then, they could hear the cracking of a big timber—some spar or boom torn off

from the masts, like rotten branches from a dead tree, by the mighty force of the irresistible cyclone. Whirling and roaring and sputtering and rattling and creaking, the storm raged on for hour after hour; and the pale and frightened women, sitting huddled together in little groups on the crimson velvet cushions of the stuffy saloon, looked at one another in silent awe, clasping each other's hands with bloodless fingers, by way of companionship in their mute terror. From time to time, they could just overhear, in the lulls between the great gusts, the captain's loud voice shouting out inaudible directions to the sailors overhead; and the engineer's bell was rung over and over again, with bewildering frequency, to stop her, back her, ease her, steady her, or put her head once more bravely against the face of the ever-shifting and shattering storm.

Hour after hour went by slowly, and still nobody stirred from the hushed saloon. At eleven, all lights were usually put out, with Spartan severity; but this night, in consideration of the hurricane, the stewards left them burning still: they didn't know when they might be wanted for prayers, if the ship should begin to show signs of sudden foundering. So the passengers sat on still in the saloon together, till four o'clock began to bring back the daylight again with a lurid glare away to eastward. Then the first fury of the hurricane began to abate a little—a very little; and the seas crashed a trifle less frequently against the thick and solid plate-glass of the sealed skylights. Edward at last persuaded Marian and Nora to go down to their staterooms and try to snatch a short spell of sleep. The danger was over now, he said, and they might fairly venture to recover a bit from the long terror of that awful night.

As they went staggering feebly along the unsteady corridors below, lighted by the dim lamps as yet unextinguished, they happened to pass the door of a stateroom whence, to their great surprise, in the midst of that terrible awe-inspiring hurricane, the notes of a violin could be distinctly heard, mingling strangely in a weird harmony with the groaning of the wind and the ominous creaking of the overstrained and rumbling timbers. The sounds were not those of a regular piece of studied music; they were mere fitful bars and stray snatches of tempestuous melody, that imitated and registered the inarticulate music of the whirlwind itself even as it passed wildly before them. Nora paused a moment beside the half-open door. 'Why,' she whispered to Marian in an awestruck undertone, clutching convulsively at the hand-rail to steady herself, 'it must be Dr Whitaker. He's actually playing his violin to himself in the midst of all this awful uproar!'

'It is,' Edward Hawthorn answered confidently. 'I know his stateroom—that's the number.'

He pushed the half-open door a little farther ajar, and peeped inside with sudden curiosity. There on the bunk sat the mulatto doctor, unmoved amid the awful horse-play of the careering elements, with his violin in his hands, and a little piece of paper ruled with pencilled music-lines pinned up roughly against the wall of the cabin beside him. He started and laughed a little at the sudden apparition of

Edward Hawthorn's head within the doorway. 'Ah,' he said, pointing to a few scratchy pencil-marks on the little piece of ruled paper, 'you see, Mr Hawthorn, I couldn't sleep, and so I've been amusing myself with a fit of composing. I'm catching some fresh ideas for a piece from the tearing wind and the hubbub of the breakers. Isn't it grand, the music of the storm! I shall work it up by-and-by, no doubt, into a little hurricane symphony.—Listen, here—listen.' And he drew his bow rapidly across the strings with skilful fingers, and brought forth from the violin some few bars of a strangely wild and storm-like melody, that seemed to have caught the very spirit of the terrible tornado still raging everywhere so madly around them.

'Has the man no feelings,' Nora exclaimed with a shudder to Marian, outside, 'that he can play his fiddle in this storm, like Nero or somebody when Rome was burning!'

'I think,' Marian said, with a little sigh, 'he has some stronger overpowering feeling underneath, that makes him think nothing of the hurricane or anything else, but keeps him wrapped up entirely in its own circle.'

Next day, when the sea had gone down somewhat, and the passengers had begun to struggle up on deck one by one with pallid faces, Dr Whitaker made his appearance once more, clothed and in his right mind, and handed Nora a little roll of manuscript music. Nora took it and glanced carelessly at the first page. She started when she saw it was inscribed in a round and careful copper-plate hand—'To Miss Dupuy.—Hurricane Symphony. By W. Clarkson Whitaker, M.B., Mus. Bac.' Nora read hastily through the first few bars—the souging and freshening of the wind in its earlier gusts, before the actual tempest had yet swept wildly over them—and murmured half aloud: 'It looks very pretty—very fine, I mean. I should like some day to hear you play it.'

'If you would permit me to prefix your name to the piece when it's published in London,' the mulatto doctor said with an anxious air—'just as I've prefixed it there at the head of the title-page—I should be very deeply obliged and grateful to you.'

Nora hesitated a moment. A brown man! Her name on the first page of his printed music! What would people say in Trinidad? And yet, what excuse could she give for answering no? She pretended for a while to be catching back her veil, that the wind blew about her face and hair, to gain time for consideration; then she said with a smile of apology: 'It would look so conceited of me, you know—wouldn't it, Dr Whitaker? as if I were setting myself up to be some great one, to whom people were expected to dedicate music.'

The mulatto's face fell a little with obvious disappointment; but he answered quietly: 'As you will, Miss Dupuy. It was somewhat presumptuous of me, perhaps, to think you would accept a dedication from me on so short an acquaintance.'

Nora's cheeks coloured quickly as she replied with a hasty voice: 'O no, Dr Whitaker; I didn't mean that—indeed, I didn't. It's very kind of you to think of putting my name to

your beautiful music. If you look at it that way, I shall ask you as a personal favour to print that very dedication upon it when you get it published in London.'

Dr Whitaker's eye lighted up with unexpected pleasure, and he answered, 'Thank you,' slowly and softly. But Nora said to herself in her own heart: 'Goodness gracious, now, just out of politeness to this clever brown man, and because I hadn't strength of mind to say no to him, I've gone and put my foot in it terribly. What on earth will papa say about it when he comes to hear of it! I must try and keep the piece away from him. This is the sort of thing that's sure to happen to one when one once begins knowing brown people!'

(To be continued.)

CUSTOMS' OFFICERS AND WRECKS.

THE powers of customs' officers in the matter of wreckage or salvage is a matter of great interest; and as it is referred to in a recent Report by Her Majesty's Commissioners of Customs, a few notes on the subject may not be out of place. The whole of the wreck-work in the United Kingdom is discharged by these officers, under the general superintendence of the Board of Trade. All wreck found by any person, except the owner thereof, is to be delivered up to the duly appointed person termed the Receiver; and even if found by the owner, the receiver is to be apprised of the facts. The receiver has power, with a warrant from a justice of the peace, to enter into any house or other place wherever situated, and there search for, seize, and detain any wreck he may find. In all cases, he shall, within forty-eight hours after taking possession of any wreck, cause to be posted up at the custom-house in the port nearest to which such wreck was found or seized, a description of the same, and of any marks by which it may be distinguished. In certain cases, he is, moreover, to transmit a description of the wreck in his hands to the Secretary of Lloyd's in London; and also to any admiral, vice-admiral, lord of the manor, or other person having claims for his own use to otherwise unclaimed wreck.

The work of the receiver includes many transactions in connection with wreck requiring much care, tact, and discretion, involving the arrest and detention of ships and cargoes, on declaration by salvors of claims to remuneration for salvage services, ships and cargoes being held under arrest until salvage claims are settled, or until proper security is given by bond or otherwise in satisfaction thereof, as well as the disposal of the claims of salvors, and the restoration of wreck to the owners thereof, after satisfying such claims, other than for salvage, that may be against it. The receivers are, moreover, authorised to dispose at once of all wrecked goods of a perishable nature; and of all other goods at the end of a year, unless they can be previously disposed of to the advantage of all persons concerned. In the performance of his work, the receiver is to 'endeavour to make himself acquainted with the persons and characters of the boatmen and others in the district who are likely to act as salvors or

to find and recover wreck;' and he is to 'remember that the powers of controlling and directing such persons, and of furthering and adjusting their claims for salvage, are to be exercised in such a manner as shall most conduce to the preservation of life and property, and that he stands between them on the one hand and the owner and insurer on the other in an independent and judicial position.' It is his special duty, whilst providing for the claims of bona fide salvors, to protect, so far as his powers permit, owners against vexatious and improper claims. The receiver is further required to proceed to any place in the United Kingdom, either on the shore or in a tidal river, where any ship may be stranded or in distress; and there to take command of all persons present, and issue such directions as he may deem appropriate for the preservation of the ship and her apparel, as well as the cargo and the lives of all persons on board.

The number of wrecks reported in 1884-85 was eleven thousand three hundred and seventy-one; and the number sold or otherwise disposed of, ten thousand one hundred and thirty-three. The amount of money received on account of wreck was twenty-four thousand one hundred and fifteen pounds; but as much of this amount is received in very small sums, it does not adequately represent the very important work performed in this matter every year by the officers of Customs.

A GOLDEN ARGOSY.

A NOVELETTE.

CHAPTER XV.—CONCLUSION.

MISS WAKEFIELD surveyed the group with an air of stony deliberation, and the sharkiness of her uneven teeth displayed itself with distinct unpleasantness. There was a cunning look in her eyes, a look of hate and greed strangely blended with avarice.

Mr Carver, after a premonitory cough, addressed her. 'Pray, be seated, madam,' he said with his severest professional manner. 'The business which has brought us here to-day is not likely to be protracted, and I see no reason why we should not commence at once. I presume you would wish to get it over?'

'Certainly,' she said; 'I see nothing to detain us. I presume the thing is concealed somewhere in the house.'

'On the contrary, madam; no. Had such been the case, doubtless it would have been discovered long since. I do not suppose you would have been behindhand in the search; and if I remember, at the time of my late client's decease, no pains were spared to find his effects. I think that is so!'

Miss Wakefield emitted a grim smile, and nodded.

'Very good,' the lawyer continued—'very good. —Mr Slimm, I suppose you have the implements at hand? Nothing remains now for it but immediately to set to work and accomplish our mission. I have seen some extraordinary things

in the course of my professional career, but I must say that since I have had the honour to be on the rolls, I never encountered anything like this.'

'How did it come out?' asked Miss Wakefield acidly.

'Margaret Boulton—you remember her, of course—she was charged with a paper disclosing this secret. If I mistake not, it was given her on the day of Mr Morton's death.'

Miss Wakefield drew her breath sharply. 'Had I but known!' she said slowly—'ah, had I but known!'

There are spots, astronomers inform us, on the sun—a metaphorical expression which, in the language of the day, implies that nothing is perfect. The expression used by Miss Wakefield therefore proved her to be after all but human, and, I am afraid, raised a feeling of gratulation in her listeners' breasts that she had *not* known.

'We are wasting time here,' said Mr Carver shortly.

At this signal, every one rose, and made their way out of the house, and thence on to the lawn. They were secluded entirely from observation, and it was impossible for passers-by to see the operations. Mr Slimm presently appeared bearing a pickaxe and spade, and without delay commenced operations. He was an old miner, and went to work in a scientific manner, which could not fail to win the entire approval of the spectators. Miss Wakefield, who, be it remembered, was entirely in the dark, watched his proceedings with a thrilling interest entirely lost in contemplating the workman.

The spot where they were standing was in the centre of the lawn, and there stood the figure of Niobe in the centre. Truly, the last place to look for a fortune.

Mr Slimm's first act was to clear away the weeds and rubbish which had in time sprung up round Niobe's feet—a task in which he was heartily aided by the onlookers, Mr Carver doing great feats with the thistles; and even Bates joined in the task, covering himself with distinction by his desperate onslaught upon sundry dandelions which time had sown there. This task being accomplished, the real work commenced.

'I do not think we need move that ancient lady,' said Mr Slimm, touching the Niobe. 'We will break earth here in front of her.'

By this time, excitement reigned supreme. Mr Carver hopped about like an animated cork, giving the most contrary directions, and sadly interfering with the task in hand by his well-meant interference. After narrowly escaping sudden death from a hearty swing of Mr Slimm's pickaxe, he retired to a safe distance, and there directed the work in safety, giving instructions which were totally ignored by the worker.

'I never calculated,' said the American, as he worked, 'to be prospecting for pay dirt on a gentleman's lawn. As an ordinary rule, such is not the place to look for dust. The symptoms don't indicate gold,' he continued, digging away with great heartiness; 'but we never can tell

what's going to turn up, as the philosopher said. Nothing like faith in these little operations. Faith, we are told, will remove mountains. It isn't a mountain exactly that I want to move; but this is precious slow work. Perhaps I'm out of practice, perhaps it's my impatience, but this heap don't seem to be increasing to any powerful extent. It can't be very much farther down, and that's a fact, or my old comrade must have been a much more powerful man than I took him for.'

By this time he had excavated the earth to some depth, but as yet nothing was visible. He resumed his task heartily, but as he got deeper and deeper, his anxiety increased.

'I hope we are not going to be sold,' Mr Slimm said at length.

'Under the statue, remember,' said Edgar; 'you are going too deep.'

'I believe you are right,' replied Mr Slimm, as he directed a few blows almost viciously at the side of the hole he had dug. At that moment the point of the pick struck on some hard surface. Expectation was on tiptoe, and the utmost pitch of excitement was reached: in other words, every one became intensely quiet—if quiet can be intense—and watched the worker closely. A few more blows given with hearty good-will, and the spade plied with equal zest, brought to light a square box, directly beneath the statue, but only a few inches underground. A few touches of the spade completed its liberation, and Charles Morton's hiding-place was no longer an uncertainty, but a pleasant reality.

There, after so long an interment, it lay. The treasure which had caused so much jealousy and scheming, disappointment and misery, care and sorrow, avarice and cunning, was there. For that money one life had been lost; for that treasure, two proud hearts had suffered four years' misery and deprivation. For that poor dross, one man's dying bed was embittered and poisoned; for the loss of it, one woman had wept and raved in vain. Hidden from fear, found by that mysterious agency poor mortals call chance, let us hope at last that it is destined to work some good in a world of tears.

It was no dream. The contents were shaken out unceremoniously upon the grass, and certified by Mr Carver. Neat piles of papers and securities, chiefly American, were wrapped in waterproof, in a careful manner. Their previous estimate of Mr Morton's fortune was found not to have been far wrong; for when the amount of the securities came to be counted, the sum came to no less than thirty-eight thousand five hundred and ten pounds.

'Good!' exclaimed Miss Wakefield, first to break the silence, and speaking in a voice as nearly approaching satisfaction as it was possible for that estimable female to reach. 'I presume the rest is merely formal.—Mr Carver, I shall expect nineteen thousand two hundred and fifty-five pounds, free of costs, to be paid into my bankers at once. I certainly take credit for my generosity in this matter.'

No one answered this remark; the idea of Miss Wakefield's generosity being sufficient to provide every mind with abundance of speculation. But Mr Slimm's sharp eye had caught sight of an envelope, which the others, in the

anxiety to count the spoil, had entirely overlooked. With a quiet smile upon his lips, he listened to the last speaker's gracious remark, and then handing the paper to Mr Carver, said: 'I am afraid, madam, we shall have to tax your generosity still further. If a will was found in our favour, I think you were to be content with five thousand pounds. If I don't mistake, the paper I have given to our estimable friend is that interesting document.'

Meanwhile, Mr Carver was fluttering about in a state of great jubilation. His first act, as soon as he had attracted the attention of the group, was to shake hands with Bates with great and elaborate ceremony. This gratifying operation being concluded, he put on his spectacles and said: 'Bates, I owe you an apology. I spoke of your intellect disparagingly, I believe, not long since; and now, in the presence of this distinguished circle, I beg leave, in all due humility, to retract my words. It was I who had lost my wits.—No—no contradictions, please. I say it was I. The paper I hold in my hand is the last will and testament of my late client, Charles Morton, the owner of this house. After giving a few brief reasons for disposing of his money in this extraordinary manner, and after a few small legacies, he says: "And as to the rest, residue, and remainder of my estate both real and personal, and of what description or kind soever and of which I may die possessed, I give and bequeath to my niece, Eleanor Seaton, for her absolute use and benefit." It is signed and witnessed by John Styles and Aaron Gray, both names being familiar to me.—Miss Wakefield, I congratulate you; I do, indeed. You have done really well.'

It was evident, from the expression of that lady's face, that she was very far from sharing this opinion. Her upper lip went up, and her saw-like teeth came down in a manner evil to see. 'It is a conspiracy!' she hissed, 'a low, cunning conspiracy.—Oh, you shall pay for it—you shall pay for it. Do you think you are going to rob me with impunity, with your lawyer schemes? I will fight the will,' she screamed, 'if I am ruined for it. I will ruin you all! I will have you struck off the rolls! Oh, you hoary-headed, lying old reptile, you!'

'Madam,' said Mr Slimm sternly, 'you forget yourself. Do you not know it is in our power to count the money you have had into the sum we propose to give you? Have a care—have a care!'

These last words, uttered with peculiar emphasis, had a wonderful effect upon the 'woman scorned.' With a violent effort, she collected herself, and when she spoke again, it was without the slightest trace of her late abandoned, reckless manner.

'Be it so,' she said slowly—'be it so. You are not likely to hear from me again.—Good-morning.—Mr Slimm, I see my cab is waiting. If you will be good enough to give me your arm, I shall be obliged to you.'

'One moment,' said Mr Carver. 'We do not propose to deduct the few hundreds you have from the stipulated sum to be paid to you. You shall hear from me in a few days.'

'Thank you,' she replied with strange humility. '—Mr Slimm, are you ready?—Again, good-morning.'

When the American returned, his face was grave and stern. What passed between him and Miss Wakefield was never known. And so she passes from our history. Her cunning and deceit—if it was not something worse—had availed her nothing. Baffled and defeated, as vice should always be, she retired to her dingy lodging, and was never more seen by our friends. Whether there had been any foul-play was never known. If the shrewd American had any such suspicions, he kept them to himself. It was best, he thought, to let the past dead bury its dead, and not stir up bitterness and the shadow of a crime, where nought but peace and sunshine should be.

Mr Carver was still puzzled. Why his client should have taken such a strange course with his money, and why he had not come to him and made his last will in a straightforward manner, was a circumstance he could not fathom. But wiser men than the astute lawyer have been puzzled ere now by the idiosyncrasies of man, and Mr Carver was only pondering upon a subject which has been and will be a theme with philosophers for all time.

'Why could he not have come to me?' he asked at length.

'I think it is easily understood,' explained Felix; 'and the principal reason was fear. According to your own showing, Mr Morton was moody and fanciful, possessing a highly-strung nervous system, and easily impressed. That woman's stronger will stifled his. I am under no obligation to her, but she possesses a mesmeric eye which has a peculiar effect upon me. Besides this, it is evident he never trusted her. He must have known, had he communicated with you, that she would sooner or later discover it, hence his strange conduct. The method, to me, savours strongly of a madman's cunning. It is proverbial that such men trust no one.'

'It is rather idle to speculate upon it now,' Edgar said cheerfully. 'Justice has been done at last, and we are satisfied.'

'We are all satisfied,' exclaimed Mr Carver. 'You have your money, and Bates has his partnership.—Eh, Bates?' slapping that individual with great heartiness on the back—'eh, Bates?'

'I suppose so, sir,' replied that misanthrope gravely; 'but the whole matter is highly unprofessional. There is a lack of business form about it.'

'Ah, ah!' laughed Mr Carver—'just like Bates; no sentiment—no poetry'—

'And no romance,' put in Edgar.

It was a merry group. Mr Slimm was talking to Eleanor, making her laugh at his quaint American saws, and she was telling him of her strange dream, and how it had all come true. Edgar and Mr Carver were badgering Bates upon his gloomy state; and Felix was amusing and instructing little Nelly with a bewildering, awe-inspiring fairy tale—the little one, who had been a silent spectator of the proceedings, and knew by some childish instinct that some happy event had happened.

'Ring down the curtain—the thing is played out,' Edgar said; 'and now back again to London town, Nelly.'

'Papa,' she said after a pause, 'has some day come?'

'Yes, darling.'

'Really and truly?'

'Yes, darling. Some day has come at last, little one.'

Sunshine and laughter, mirth and joy, instead of misery and despair, gloom and smoke. East-wood again two months later, and high revels are being held, for is it not little Nelly's birthday! The blue sky, flecked with little white clouds, smiles overhead, and the birds are making merry in the trees. Niobe still stands in the centre of the lawn, as ready to keep a secret as ever, and saying nothing either of the future or the past.

A pattering throng of little ones are trying to play at tennis, and Eleanor and her husband are watching them with amused eyes. Eleanor looks very sweet and fair to-day, with the light of happiness in her eyes; and there is an expression of peace on her face, as she leans upon her husband's chair, which is good and pleasant to see. Mr Bates is looking on at the group with meditative looks, speculating, no doubt, upon marriage settlements, which these little chatterers will want some day. Jolly Mr Carver is in the midst of a group of little ones, making himself an object of ridicule and contempt on account of his lack of knowledge touching the mysteries of 'hunt the slipper.' 'Fancy an old gentleman like that knowing nothing of the game!'—an opinion which one golden-haired fairy tenders him without hesitation, and to which he listens with becoming humility and contriteness. Noble-hearted Felix has established a court, where he is doing his best to emulate the wonders of the eastern storytellers, and, to judge from the rapt attention of his audience and the extreme roundness of their eyes, his imagination is by no means faulty. Lying full length on the grass, watching the various groups, is Mr Slimm. There is a depth of sadness in his eyes to-day, for he is thinking of another home—that was—thousands of miles away, and the echo of other voices than these rings in his ears.

'I did hope,' he said, rising up, 'that I should spend my old age with my own children; but I suppose it was not to be.'

'Do not think of that now,' Eleanor said with womanly tenderness.

'Perhaps it is selfish,' he replied, with a great heave of his chest. 'It is all for the best, and I have my happiness in yours. Had I not lost my dear ones, I should never have brought you your joy.'

'Dear old fellow!' Edgar said, pressing his hand warmly. 'Try and forget that for to-day. How good providence has been to us!'

'It is not every man who has a wife like yours, Seaton,' replied the American, heedless of the blushing Eleanor.

'True for you, old friend,' Edgar replied, looking at his wife lovingly. 'I have one in a million; and he kissed her fondly.'

The American regarded them for a moment with something in his eyes suspiciously like tears. 'It was not to be,' he said at length—'it was not to be!'

Eleanor came forward and took his hands in her own. 'Why not?' she said. 'You have always a home and welcome here. Stay with us, and we will give to you what we can. Now, promise.' And he promised.

THE MONTH: SCIENCE AND ARTS.

THE necessary excavations for an immense sewer in course of construction at Rome, have laid bare some interesting relics of the ancient city. One of these is a tomb, almost perfect in every respect, which bears an inscription showing that it was the last resting-place of Sergius, who was consul in the year 144 B.C. Cicero mentions Sergius as being a fine orator. The tomb is a handsome one; and it is intended to remove and rebuild it in some spot where it will again be open to the light of day. At present, it is at a depth of twenty feet below the modern level. Other relics, separated from the present by an interval of twenty centuries, have also been laid bare. Among them is the site of the College of Medicine, and an inscription bearing the names of thirty physicians.

Another interesting find has occurred at Ramleh, near Alexandria. This is the unearthing of an ancient statue of the great Pharaoh, which was recently discovered by the chief of the coastguardsmen, Middlemas Bey, while searching for contraband tobacco. The statue has not been fully examined yet. There is little doubt, however, that it is three thousand years old. It is covered with hieroglyphics, which will most probably throw some light upon its history. There is every indication that the spot where it has been found may form part of the site of a buried city.

The Exhibition opened some weeks ago under the auspices of the Geographical Society (London), has proved a great success, for it has been well attended. Its object was to show, by exhibiting the maps, atlases, textbooks, and appliances devoted to this science by continental countries, and also by lectures, that the land upon which the sun never sets is beyond all others the most deficient in the means of teaching geography. The collection will presently be exhibited at Manchester, and afterwards at Edinburgh. It is said that the Council of the Geographical Society will give a favourable hearing to any application which may be made to them for the loan of the collection for exhibition in other large cities.

M. Daubrie, an authority on meteorites, has been examining two of these bodies which fell in India last year. One of them fell at the village of Pirthalla, in the Punjab. It weighed twenty pounds, and had the appearance of granite, coated with a blackened skin. The other meteorite fell in the North-western Provinces, and its fall was accompanied by a flash of light and a noise resembling thunder. A great deal of interest has been aroused lately in the subject of meteorites by the course of lectures which Professor Dewar has just concluded at the Royal Institution, London, and which have been addressed to a juvenile audience. Children of an older growth as well can hardly fail to be interested in these mysterious bodies, the only visitors that come to us from space.

We stated last month in these columns that

MM. Paul and Prosper Henry had succeeded in photographing a portion of the Milky-way. It has now been suggested by the same eminent French astronomers that the different observatories of the world should join hands in the stupendous undertaking of charting in their true positions all the stars, about twenty millions, which are included in the first fifteen magnitudes. It is calculated that the work might be accomplished within the present century, if twelve observatories in different parts of the northern and southern hemisphere were to undertake it. About five hundred and ten photographic plates would have to be taken at each place, and each plate would require perhaps one night's attention. But the only nights available would be those having no moon and having a clear and still air. If this work be carried out, its value to the future of astronomical science will be incalculable.

A shock of earthquake was felt at about seven o'clock on the morning of January 20 in Cornwall, at St Austell and in the neighbourhood. It appeared as if an explosion had taken place, so great was the noise, and the sound was immediately followed by the shaking of the ground. Persons felt their beds moving under them, and many others had an impression that a portion of their house was falling down. The shock was also felt at Mevagissey. Many people were shaken in their beds. In one instance a clock was stopped, and in many houses the doors and windows shook violently. The inhabitants of St Blazey and neighbourhood were greatly startled, about a quarter past seven, by hearing a loud rumbling noise and by houses being shaken from foundation to roof. It appeared to come from a northerly direction, and the vibration lasted about four or five seconds. Persons coming in from the outlying districts and giving an account of the shock being more or less severe, all agree as to the time of its taking place.

A more important instance of subterranean activity has been reported to the Admiralty by the United States government. A submarine volcano, southward of the Culebras reef, has suddenly become active, and has thrown up an island two miles in length and about two hundred and fifty feet in height. A similar volcano on the same spot was reported in the year 1877.

From a study of six hundred and fifty thunderstorms that occurred in Italy in 1881, Signor Ferrari concludes that every thunderstorm is connected with a barometric, hygrometric, and thermic depression; it is behind the two former, and in front of the last. Most of those storms arose in the wide plain of the Po. Coming from west-north-west with a velocity of from eighteen to twenty-four miles per hour, they passed (in case of their greatest range) with slackening speed over the Apennines in Upper and Middle Italy. For a given moment the thunderstorm has the form of a long narrow band, advancing, with numerous bends outwards and inwards, parallel to itself, and having its various characteristic phenomena most intense along the middle line. The dominant wind-direction is generally parallel to that of propagation of the storm.

M. de Lesseps, with delegates from the Chambers of Commerce of Paris, Marseilles, Havre, Rouen, Bordeaux, and Lyons, as well as

representatives from England, Holland, Germany, &c., whom he has invited to accompany him, has started for the Panama Canal works. The object of the journey is to dispel any doubts as to the completion of the undertaking, and also to give the representatives of the various nationalities an opportunity of seeing for themselves how far the work has progressed. It is said that there are now twenty-seven contractors on the works, who are tied down to finish their sections by certain dates. So many adverse reports have been circulated as to the real condition of affairs, that news from competent and disinterested observers will be looked for with some anxiety.

A scheme, under influential support, has been started for the pacification and administration of that unfortunate part of Africa called the Soudan. This happy consummation is to be brought about by the establishment of a chartered corporation of somewhat the same type as the defunct East India Company. The nominal capital of this proposed Company is to be ten millions, with power to borrow as much more; and it is further proposed that the English government, in consideration of having the white-elephant taken off their hands, should find a handsome subsidy. The money would be employed in the development of the country generally, by the maintenance of roads, railways, irrigation-works, and other works of public utility. As the tribes generally have the instinct of keen traders, it is hoped that these measures may induce them to 'turn their swords into ploughshares, and their spears into pruning-hooks.' It is hoped, too, that the operations of the Company may stamp out for ever the slave-trade of equatorial Africa. The scheme is a magnificent one; but its success will depend upon the tact of those who are brought into contact with the natives.

Lieutenant Taunt, who was employed by the United States government upon a mission to the Congo, has recently returned, and gives a very favourable report as to the healthy infancy of the free state. With few exceptions, the chiefs of the different stations are on good terms with the natives. Cattle are reared with great success, and fresh meat is therefore abundant, and the same may be said of European vegetables. Lieutenant Taunt enjoyed good health, and considers that there is no reason why other white men should not do the same, if they will only exercise common prudence. Upon only one occasion did the explorer meet with any animosity from the natives, and this he attributed to the fact that no station had been established in that particular district. He considers that it would be to the interest of the free state if a great many more stations were established. Finally, Lieutenant Taunt agrees with Mr Stanley that on the Congo there are abundant resources to develop.

We have much pleasure in calling attention to the Typewriting and General Copying Association, which for twelve months has been established for the employment of reduced gentlewomen at Lonsdale Chambers, Chancery Lane, London. This worthy little Association has during its first year been so successful in paying its way and making a profit on the work done,

that three new type-writers have been bought by it. Authors, dramatists, and many others find it very convenient to have their writings translated into a form which can be so easily read. We wish the enterprise continued success.

The miniature hills and vales exhibited by the wood-pavement of a roadway where there is a constant traffic, is a familiar sight to dwellers in our cities. The only remedy hitherto found for the disease is the relaying of the road with fresh blocks of wood and a long exhibition of the notice 'No Thoroughfare,' while the tedious operation is going forward. Mr Bicknell, of the Sandycroft Foundry Company, Chester, has invented a machine to obviate this inconvenience, and it has been tried with some success at Manchester. It has the appearance of a traction-engine, and it carries before it a revolving disc furnished with cutters. These cutters pare the road level, after the manner of a planing-machine, advancing upon the work at the rate of one foot per minute.

All anglers must be grateful to Mr Henry Ffennell for the care with which he gathers and publishes statistics relating to the Salmon Fisheries. His record for the past year is a very satisfactory one, for it tells us that fish of large size have fallen victims to the rod and to the net. Huge fish of forty pounds weight have been common, and as usual, the river Tay takes the lead in the number and weight of its fish. One angler, Captain Griffith, landed in a single day thirteen fish of the collective weight of two hundred and thirty-seven and a half pounds. In the Dee, a fish of fifty-seven pounds fell to the rod of the keeper, and a fish of the same weight was taken in Ireland, on the Shannon. On the Dee, it is reported that netting in the lower reaches has been carried on to such an extent that the upper proprietors who do so much to nurse the fish during their tender infancy are becoming quite disheartened. The same complaint comes from the water-bailiffs on the upper portion of the Severn fishery. But here, it seems that the fish have other remorseless enemies in the otters, who of late years have increased in numbers to an alarming extent. These voracious hunters do not content themselves with simply killing a salmon now and then to supply their larders, but prefer, as their habit is, to eat a piece out of the shoulder, leaving the rest of the carcase untouched. As many as six or seven dead fish have been found in one place mutilated in this manner.

'Horses of the Past and Present' was the subject of a most interesting lecture given lately at the London Institution by Professor Flower, who, it will be remembered, succeeded Professor Owen as Director of the Natural History Museum at South Kensington. He pointed to the tapir as one of the earliest known ancestors of the horse, and showed that the family group to which the horse belonged had undergone great modifications. The changes which had gradually taken place in the horse consisted principally in a great increase of size, especially in the length of the neck and certain structural alterations in the bones. The teeth and the feet exhibit the most marked alterations from previous types, alterations which have been induced by conditions of life. The lecturer held that the domestic horse is undoubtedly derived from the wild

species of Europe and Asia, but there is no means of arriving at the time when domestication took place.

The opening, last month, of the tunnel beneath the Mersey, which connects Liverpool with Birkenhead, marks the successful completion of one of the great engineering achievements of modern times. The boring differs from an ordinary railway tunnel in consisting of three separate passages through the solid rock. The lowermost of these is a drainage 'heading' eight feet in diameter. Seven feet above this comes the main tunnel, twenty-six feet in diameter, through which the trains are now continually passing, and lastly, by its side runs the ventilating tunnel, seven feet in diameter. This last heading is a most important feature of the works. Revolving fans, forty feet in diameter, at each end of this ventilating tunnel, cause the air to be changed continually in the main heading, so that passengers breathe air as pure as that they have left behind them above ground. Those who have travelled in the choking atmosphere of the Metropolitan Underground Railway will be able to appreciate the importance of this provision for fresh air. Golfers, too, who reside in Liverpool and who frequent the delightful Links of Hoylake, in Cheshire, will doubtless appreciate the convenience of being taken there and back minus the ferry-boat passage.

It would seem almost an impossibility that snow could attach itself to and accumulate upon a strong metal wire suspended in mid-air, to such an extent as to cause that wire to snap by reason of the extra burden imposed upon it. But recurring snowstorms teach us that this is what happens to many of our telegraph wires, to the great and serious injury of communication all over the country. One of the officials of the telegraph department has been at the pains to weigh a portion of the frozen snow which fell from a wire, upon which it had covered a space of one foot. The mass weighed just upon one pound. Now, as the supporting posts of such a wire are commonly two hundred feet apart, it is readily seen that a wire may be called upon by a snowstorm to support an extra weight of two hundred pounds. More than this, a wire so circumstanced may form one of two dozen or more supported on the same set of poles, and these supports naturally succumb to the unusual load. The remedy is obvious; wires should, whenever possible, be laid beneath the ground, and our postal authorities are carrying out that principle as far as they can.

Another advance in photography is represented by a process invented by M. Thiebaut, which has recently been described before the Photographic Society of Great Britain. In this process the glass plate which usually forms the support of the photographic film is superseded by a sheet of cardboard. In other words, the sensitive mixture of silver bromide and gelatine is spread upon sheets of cardboard. After the picture is developed, the film is separated from its support, and can be printed from by the sun in the usual way. The advantage of this process is that a tourist can carry with him the material for a gross of pictures, while the weight is only about that of a dozen of the usual glass plates. More than this, several negatives when complete can be stored away in a very small space.

The great painter Van Dyck, while journeying to Italy, fell sick at the village of St Jean de Maurienne, in Savoy, and was carefully nursed until convalescent by the family of one of the chief residents. As some return for the kindness he received, Van Dyck painted the portrait of one of the children of his host, and left the picture behind him. This picture has been for a long time known to exist, but where it had gone to, nobody could tell. It has at last been discovered, and it is probable that the directors of the Brussels gallery will endeavour to purchase this precious relic of the great master.

The machinery devised for producing cold air, and hitherto exclusively used for freezing meat and other perishable things, has lately been employed in Stockholm for quite another purpose. A tunnel has been in course of construction there which passes through a hill, the soil of which is of a wet, gravelly nature. Upon this hill stand many buildings, which would have been in great danger if the work had proceeded without some means being taken of supporting their foundations. Underpinning was considered too expensive; so the contractor hit upon the entirely novel plan of freezing the wet gravel into a solid icy concrete. The plan has answered admirably, and many of the houses are being tunnelled under with perfect safety.

The professors of the Edinburgh Royal Infirmary have adopted a new form of stretcher, the invention of Mr R. Stevens, who is an engineer employed at the institution. The apparatus consists of a canvas sheet, with carrying-poles on each side, attached to the ends of which are iron cross-bars, to prevent the poles coming too near together, and providing therefore a sufficient space between them for the patient under removal. But the chief feature of the new contrivance, and one which must prove very valuable in some cases of injury is, that the patient can be laid on a bed without being lifted from the stretcher. This end is accomplished by making the canvas sheet in two parts, but secured by a cord or a rod passed through loopholes at the place of junction. When the stretcher, with the patient on it, is placed on the bed, this cord or rod can be readily removed, and the stretcher falls in two halves, leaving the patient comfortable.

We have already noticed the wonderful antiseptic properties of boracic acid in the article 'Borax' (*Journal*, January 9th). An interesting testimony as to its properties for preserving fresh fish comes from Norway. Writing in the *Scotsman*, Professor J. Cossar Ewart draws attention to the fact that between four and five thousand barrels of herrings preserved by means of a mixture of this substance and salt, have been arriving weekly from Norway; and last winter, over twenty thousand barrels found their way into the English market. Cargoes delivered before Christmas had a ready sale at twenty-eight shillings per barrel. The same writer indicates how the boracic acid may be applied in the preservation of fish. For preserving herrings, the best plan seems to be a mixture of powdered boracic acid and fine salt. The mixture having been made, the fresh herrings should be arranged in layers in a barrel in exactly the same way as cured herrings are packed,

and each tier covered with a thin layer of the mixture. When the barrel is full, it should be tightened down in the ordinary way and then 'pickled' with a weak solution of boracic acid. For treating a barrel of herrings in this manner, two and a half pounds of acid and five pounds of salt are required for spreading on the tiers of herrings during packing, and about ten ounces of pure acid for dissolving in the fresh water used for pickling. The boracic acid may be had for less than sixpence a pound.

Dr Riley, Entomologist to the United States Agricultural Department, has presented his collection of insects to the United States. It is said to contain one hundred and fifteen thousand specimens of twenty thousand species or varieties of insects.

In Germany, an unusual number of white varieties of animals are noticed this winter. A white chamois was shot in the Totengebirge, a white otter was caught near Luxemburg, white partridges were shot near Brunswick, and a white fox was killed in Hessen.

In the eleven years from 1873 to 1884, the number of lions killed in Algeria was two hundred and two, for which a premium of four hundred pounds has been paid by the government. The number of panthers destroyed in the same period is twelve hundred and fourteen, and the money paid by the government seven hundred and twenty pounds. About four hundred pounds has been paid for eighteen hundred and eighty-two hyenas, and sixteen hundred pounds for twenty-seven thousand jackals. The large felidæ are almost extirpated principally in the western provinces, and the lion of the desert is fast becoming a thing of the past.

A BARRACK GHOST STORY.

'PRISONER, have you any objection to be tried by me as president, or by any member of this court-martial?' asked the field-officer who had been detailed for the duty of presiding over the court.

'No, sir,' I answered; for it was my most unenviable situation that morning to be brought to the courtroom for trial, having been 'put back' by my commanding officer a few days before on a charge of having been asleep on my post while on sentry; an offence characterised in my indictment as 'conduct in prejudice to good order and military discipline.'

The members composing the court were then sworn, and the trial proceeded in the cumbrous fashion peculiar to military tribunals, the president laboriously writing down every word of the evidence as it was uttered. The sergeant who had been in charge of the guard at the time of my alleged offence was the principal witness against me, and he began to describe, with grotesquely ungrammatical volubility, how he had found me stretched on the ground asleep; but was at once pulled up short by the president, who ordered him to say what he had to say in as few words as possible.

'Was the prisoner sober?' asked one of the officers when the sergeant had finished his evidence.

'Quite sober, sir,' replied the man of stripes.

The men who composed the relief having corroborated the sergeant's statement, I was called upon for my defence.

I therefore narrated to the court, that shortly before my two hours on duty had expired, I saw a white figure carrying a drawn sword pass close to my post; and that, being of a nervous, excitable temperament, I was so frightened that I fell to the ground in an unconscious state, and only recovered when I was roused by the sergeant of the guard.

'Prisoner,' remarked the president, 'in my twenty years' experience of the army, I have served on numerous courts-martial, and have heard all kinds of ingenious defences put forward by men in your present position in excuse of the offences with which they were charged; but your line of defence is the most remarkable that has come under my observation. Who, do you think, will credit a story of that description? Assuredly not I, for one.—Now, prisoner,' continued the major in a kindly tone, 'I must advise you that your action in submitting to the court a statement of that description is extremely injudicious. You will do yourself a positive injury by persevering in it, not only with regard to the probable extent of your punishment, but also to your reputation as a soldier. It will be far better for you simply to own that you were asleep. You are a young man who has served but six months in the regiment; so, under the circumstances, assuming that you adopt my suggestion, which is assuredly meant for your good, the court may think fit, consistently with the duty demanded of it by the hard and fast requirements of military law, to recommend a much lighter sentence of imprisonment than would be administered to an older and more experienced member of the service.'

'I can only tell the truth, sir,' I urged.

'That, then, is your defence—that you were frightened by the figure you saw?' asked the officer in a tone of vexation.

'That is my defence, sir,' I replied.

'Very well,' said the president, writing down my statement.—'Escort, remove the prisoner.—Stop! About his character? Call the captain of his company.'

My captain answering the summons, stated that my conduct had been most exemplary; after which I received the command: 'Left turn, quick march!' and was removed to the guardroom; and the members of the court-martial began their deliberations on the duration of the period of imprisonment which they meant to administer to me.

I shall now relate the facts in connection with the appearance of the 'figure' before alluded to. At one o'clock on the morning of my arrest, I was posted on sentry in front of a wall which had been built on the face of a cliff overhanging the beach. Why that particular spot required guarding, when any attempt on the part of a soldier to break out of barracks would be equivalent to committing suicide, as the rock had a sheer unbroken descent of one hundred and fifty feet, was a matter of puzzling speculation to the men of all the regiments which in turn occupied the quarters I refer to. A tradition, however, which was retailed to me by an

aged veteran who officiated as a barrack labourer, threw some light on the subject. Many years before, the colonel of a regiment which was about to leave the town in order to embark for India, placed a sentry on the spot, to prevent his men from throwing over the cliff the rubbish that accumulates in changing quarters; and the relieving regiment finding this man on duty, had supplied his place without troubling themselves about the why and wherefore; the post became in consequence a permanent institution, and a sentry guards the wall to this day.

The morning on which I was on guard was exceedingly cold and frosty. The moon shone brightly, throwing the dark shadow of the adjoining officers' quarters half-way across the parade-ground in front. In the valley beneath I could see distinctly every gable and chimney of the houses of the old-fashioned town that nestled so cosily in the hollow between the precipitous cliffs. The moon was reflected brightly in the ocean to the south, and by its light I could even see the glittering bayonet of the sentry who guarded the government stores on the pier, a mile distant. Our gallant soldiers on duty, however, have but little regard for the picturesque; and like most men similarly situated, I was wearying for the termination of my two hours' vigil, and little inclined to admire the surrounding scenery. At length the clock struck three; and I was at once filled with a feeling of cheery satisfaction at the immediate prospect of being relieved, and of returning to the warm guardroom and drinking a cup of hot coffee before turning off to sleep.

I heard the sentry on the gate lustily shout 'Sentry-go!' as a summons for the relief to turn out; and just as I was preparing to take a last turn on my post, I perceived, at the extremity of the shadow cast by the officers' quarters, a ghostly figure in a long white robe, bearing in its hand a drawn sword. I endeavoured to shout for assistance, but was so 'harrowed with fear and wonder,' that I was unable to articulate a single word, but stood perfectly transfixed, staring at the apparition. It moved slowly past me; but when it turned round and raised its disengaged hand to its white head-covering, as if in salute, its aspect so filled me with terror, that being, as I mentioned before, of a nervous temperament, I fell to the ground, and only recovered consciousness when, a minute or two afterwards, I was vigorously shaken up by the sergeant of the guard.

That non-commissioned officer along with the men of the relief laughed heartily when I described the fright I had received, and remarked that I had been dreaming. The sergeant, however, performed the duty required of him by the rules of discipline in a most inexorable fashion. He deprived me of my arms and belts, and confined me in the prisoners' quarters in the guardroom.

Next day, I was taken before the commanding officer, a hot-headed Welshman, whom I shall call Colonel Morgan, charged with having been asleep on my post. To him I related particulars of the mysterious figure I had seen; but my statement, instead of proving a satisfactory excuse for my offence, as I hoped it would, threw the worthy colonel into a state of great indignation, and he at once remitted me for trial by court-martial.

On the third day after the sitting of the court, I was informed that my sentence would be promulgated at forenoon parade. With a sinking heart, I heard the 'assembly' sounded, then the 'fall in;' and shortly afterwards the band played merrily, as if in mockery of my agitation.

Escorted by a file of the guard, I marched to the centre of the hollow square into which the regiment had been formed; and the adjutant read out my sentence, which was, that I should be imprisoned with hard labour for a period of eighty-four days. Appended to the confirmation of the proceedings of the court-martial by the general commanding the district was a note to the following effect: 'Considering the nature of the prisoner's defence, which was calculated to excite an uneasy feeling among the men of his regiment, I consider the punishment inflicted quite inadequate to the enormity of his offence.'

The next day, I was escorted, handcuffed, to a military prison about six miles distant, where, after having been medically examined and weighed, I was introduced to a most select assemblage of erring brethren of the sword, who were engaged in the exhilarating occupation of picking oakum, alternated with the agreeable muscular exercise of 'shot'-drill.

The humiliating and degrading situation in which I found myself, through no fault of my own, made me, naturally enough, deeply regret my folly in having joined the army, and excited within me many unpleasant reflections on the good prospects in civil life which I had thrown to the winds. Like Mickey Free's father, in Lever's *Charles O'Malley*, I heartily ejaculated: 'Bad luck to the hand that held the hammer that struck the shilling that listed me!'

Now for the sequel to my ghost story, which was related to me when I was released from durance vile.

Between two and three o'clock on the morning of the day after I was taken to prison, a man came screaming into the guardroom of the barracks, exhibiting symptoms of the most extreme terror, and declaring that he, too, had seen the figure while on sentry; and his description of its appearance was precisely similar to mine.

The sergeant of the guard at once rushed to the officers' quarters, woke up the adjutant, and informed him of the ghost's alleged reappearance. A hue-and-cry was at once instituted; and the orderly sergeants having been roused, a 'check-roll' was called, to ascertain whether any man had left his room for the purpose of playing a practical joke. Every nook and cranny in barracks, from the officers' quarters to the wash-houses, were rigidly examined; but the spectre had apparently vanished into thin air, leaving all the regiment in a state of unpleasant suspense.

'What's all the row?' shouted the colonel from the window of his room, he having been awakened by the unusual commotion in barracks.

'The ghost has appeared again, sir,' replied the adjutant.

'Have you caught him?'

'No, sir.'

'If you do, put him, white sheet and all, in the guardroom. I should very much like to see the gentleman,' remarked the colonel as he closed the sash of his window and returned to bed.

That morning, at orderly hour, Colonel Morgan remitted the unfortunate fellow who, like me, had been scared by the mysterious visitant, for trial by court-martial, declaring that he would put an effectual check on these absurd fancies of the sentries; and immediately before the usual parade he delivered a most characteristic warning to the regiment on the subject. After describing the condign punishment which any practical joker, whether officer or private, might expect if caught in the act of playing the ghost, the commanding officer furiously exclaimed: 'When a soldier is on duty, I expect that he will stick to his post, even supposing the Evil One himself should make his appearance; and I will try by court-martial any man who dares to act contrary to my express injunctions.'

That afternoon, however, when the guard mounted, the adjutant privately gave orders that the oldest soldier should be detailed for the second relief on the haunted post; and this selection fell on a brawny Yorkshireman, a Crimean and Indian veteran named Sykes. Sykes at once intimated it as his intention to have a shot at the spectre; and being filled with a superstitious belief in the efficacy of a silver bullet when fired at a visitor from the world of spirits, vowed that he would hammer up his day's pay of sixpence and place it in a cartridge, to make sure of 'doing for' the ghost, even although he knew the operation referred to would spoil the price of a quart of beer.

The sergeant of the guard having seriously inquired at the adjutant, whether, in the event of the figure again making its appearance, the sentry would be empowered to fire at it—

'I think not,' the officer laughingly observed. 'If it is a real ghost, then I'm afraid a bullet won't be of much service. If it is a practical joker, then we'll make it "hot" enough for him without shooting him.'

That evening at mess, the appearance of the spectre was the general theme of conversation among the officers; but all of them, however, expressed their incredulity with regard to the story. A few of the youngsters, whose curiosity was strongly excited on the subject, made up their minds to keep watch beside the sentry, so as to pounce on the spirit when it made its appearance, and arranged to take with them a pet bulldog belonging to the colonel, to assist in the operation.

'Won't you join us, sir?' asked a young ensign, addressing the commanding officer.

'I think not,' he replied. 'I am tired, and shall go to bed. If you catch the ghost—which I suspect is likely to be one of the men—clap him in irons and put him in a cell. I'll attend to him to-morrow.'

When Colonel Morgan left the messroom, he visited the haunted post before retiring to his quarters, which were close at hand. After replying to the sentry's challenge, he asked Sykes: 'Have you seen anything as yet?'

'Not yet, sir,' replied the man.

'I don't think that it is likely you will either,' remarked the colonel with a laugh as he retired to his room.

Shortly afterwards, when the clock struck two, the young officers left the messroom and cautiously stole over the barrack square to the

place where 'the spirit held his wont to walk.' Poor Sykes was very glad of their company; for, though he was a man of undoubted pluck, and greatly respected in the regiment for his pugilistic prowess, he was not at all bright at the prospect of tackling the ghost all by himself. He paced about on his post, keeping a sharp lookout, and the officers crouched under the shadow of the wall; while the dog took up its quarters in the sentry-box. A little before three, they were startled by the abrupt appearance of the apparition, which carried as before a drawn sword.

'Who comes there?' shouted Sykes, bringing his rifle to the 'charge.'

The spectre made no answer, but slowly raised its left hand to its forehead.

The dog, with a loud growl, sprang out of the box and rushed open-mouthed at the figure; but when he approached it, he began to wag his tail, and evinced symptoms of great satisfaction. The officers and the sentry at once surrounded the ghost, and found, to their most intense astonishment, that it was no other than Colonel Morgan himself, attired in his night-dress, in a state of somnambulism!

Aware of the danger of waking him while in that condition, they followed him to his room, whither he almost immediately returned, and there they saw him sheathe his sword and return to bed seemingly oblivious of their presence.

Next morning, he was apprised of the circumstances of the case; and the poor colonel was naturally very much concerned on learning the nature of the malady of which he had been an unconscious victim. Of course his first action was to write an explanation to the general, with a request for my release; and his next, to publish in regimental orders his regret for the trouble he had unwittingly occasioned.

Several red-tape formalities had to be gone through; and it was some days before I was astonished and delighted by an intimation from the prison governor that I was free; and was handed over to the charge of a corporal, who had been sent to bring me to my regiment. Whenever I entered the barracks, I was ordered to proceed at once to the commanding officer's quarters. Colonel Morgan shook hands with me, and expressed his extreme concern that he had been the innocent cause of my having been subjected to such ignominy.

'No wonder that I frightened you, my lad,' he observed with a smile. After informing me that he was about to proceed on leave—with the intention of undergoing a course of medical treatment to cure him of his dangerous propensity to walk in his sleep—he presented me with five pounds by way of solatium; and further gratified me by saying, that having ascertained I was of good character and well educated, he had that day placed me in orders as having been appointed lance-corporal. 'Always behave yourself, my lad, and I shan't forget you,' said the colonel; and I left his quarters perfectly overjoyed with my good-luck, scarcely believing that the pleasant, affable, kindly gentleman with whom I had conversed was the hectoring, bullying commander, who was the terror of his regiment.

The colonel faithfully kept his word to me.

When he rejoined the corps, completely cured of his complaint, I was promoted rapidly; and eight years subsequently, through the influence of my patron, General Morgan, I was gazetted as quartermaster of my regiment.

OCCASIONAL NOTES.

SMALL MOTORS.

THE advantages of mechanical power have never been more appreciated than at the present time, when trade depression enforces economy in every industry and branch of production. Attention has accordingly been keenly directed of late towards that class of prime movers known as 'small motors,' deriving their power either from some central supply, or themselves generating the motive energy. A wide field undoubtedly lies open to such motive force, not merely in the domestic operations—pumping water for house-supply, driving, sewing, and culinary machinery—but also in such industrial work as cutting, chopping, grinding, churning, and sawing; in addition to the numberless requirements of the smaller manufactories and workshops.

Gas-engines have already reached a high stage of perfection, and in towns where gas can be procured at a moderate cost, large numbers of these motors are actively and advantageously employed in the various operations just enumerated. The production of the gas at one central source, prior to its distribution, is, it may be remarked, on economical grounds, a very perfect arrangement, for the loss incidental to a series of small producers is avoided. A similar law holds true of steam, it being well known that a number of small engines driven from one large boiler give a considerably higher duty than if each engine had its own small boiler.

The employment of water-pressure has of late received considerable impulse; and in large cities, systems of high-pressure supply are now laid down. The power is supplied from accumulators worked by pumping-engines at central stations, and a pressure of one thousand pounds per square inch is not unfrequently maintained in the mains. For lifts and hydraulic hoists, this system of transmitting power has been eminently successful; for other purposes, it has not as yet realised the expectations of its introducers, mainly, it is asserted, from difficulty in obtaining a satisfactory motor which shall transform the pressure into motion.

Cost of production has as yet debarred electricity from competing commercially as a transmitter of power; viewing, however, the extraordinary progress recently made, it would be rash to assert how much further a comparatively near future may not bring us, if we would read the future by the past.

Recently, a vacuum-engine has been produced, which attracted considerable attention at the Inventions Exhibition, and from what has been achieved in a very short time, promises well. Amongst the advantages claimed for this engine is the fact that once started, no further attention is requisite for many hours. By an ingenious use of gun-metal in the cylinder, valves, &c., lubrication is rendered unnecessary; whilst, by

means of a hopper boiler, the furnace is self-feeding. Explosion is, of course, impossible, the engine working below atmospheric pressure.

This engine has been employed in small electric-light installations; and from its regular motion and the ease with which it is managed, is undoubtedly eminently adapted for this class of work; whilst the smallness of its coal-consumption and the high duty attained have procured the highest awards at the hands of all juries who have examined it.

In the future of 'small motors,' a future that appears an extended one, this new vacuum motor will doubtless play a not unimportant part.

A BOOK OF CLAN TARTANS.

Whether the kilt did or did not form part of the 'garb' of old Gaul may be left for the discussion of antiquaries, but there can be no doubt about the antiquity of tartans. As is well known, the various clans in the Scottish Highlands were distinguished from each other not only by their names, their badges, their war-cries, but also by the particular pattern and colour of the tartan which they wore. In the magnificently printed volume just issued by Messrs W. & A. K. Johnston, entitled *The Tartans of the Clans of Scotland*, lovers of the Highland garb will be delighted by the splendid reproduction in colours of the tartan of seventy-one clans or septs. Nothing can excel the accuracy and beauty with which the cloth, both in colour and texture, has been imitated in these plates. Each plate, moreover, is accompanied by a few notes on the clan to which the particular tartan appertains.

THE INFANT BAND OF PORT JACKSON.

There is at present lying in Port Jackson, Australia, a training-ship called the *Vernon*, and some of the boys who have musical ability are regularly trained in the study of music, with the view to becoming efficient musicians, and thereby able to take their place in military or orchestral bands. So small are these children, that it has been jokingly said half a dozen of them could readily be accommodated in their own big drum; whilst the grand ophicleide would afford a comfortable lodging for one or two at least! But small as they are, their playing is one of the wonders of the neighbourhood, and the delight of all who have had the good fortune to hear them. These diminutive artists execute classical music, as well as music of a lighter character, with a vigour and precision, and a finished taste and expression that are nearly incredible, and should be heard to be believed. In fact, many an ordinary military band might well take a lesson from them in the grace and point with which they play, and also in the perfect tune and delicacy of tone of all their instruments—virtues that are not common to boys' bands; extreme roughness, want of tune and tone, and total absence of grace or expression, being the usual failings of juvenile players. That the *Vernon* band is carefully taught, and trained with the utmost care and skill, there can be little doubt; and great credit is due to the directors and commander of the vessel, which, apart from

the unrivalled band, is a model as regards drill, discipline, order, and cleanliness. The *Vernon* is maintained entirely at the cost of the state, not by private subscriptions, donations, or rates.

DAIRY EXPERIMENTS.

Lord Vernon, who was last year President of the British Dairy Farmers' Association, made a proposal for the institution of experiments, with the object of solving the following questions: (1) What is the smallest quantity of food upon which stall-fed cattle can be successfully and economically kept? (2) To what extent does a further supply of food repay its cost in the enhanced value of the milk? (3) What relation should the constituents of the food have to each other to produce milk, butter, and cheese? It was suggested that these experiments should be carried out under the superintendence of a Committee of the British Dairy Farmers' Association; and Lord Vernon, who undertook to provide everything necessary for their use, desired that any information obtained should be published for the benefit of those connected with dairy-farming.

DOLLY.

We were schoolfellows, Dolly and I,
At a little dame-school in the town close by;
I carried her books, and she held my hand—
Two innocent children of God's own band.
We would marry when we grew up, we said,
Grave plans for the time to come we laid—
A small boy I, and a wee girl she,
In those bygone days—ah me! ah me!

We grew—we were married—Dolly and I,
At the quaint old church in the town close by;
The farm was purchased, the fees were paid—
'What a blithe young couple!' the neighbours said.
And so we were, till the winds blew bleak,
And chilled the roses on Dolly's cheek.
Like the waning tide of a waveless sea,
Her life ebbed gently—ah me! ah me!

If you want to know why I oftentimes sigh,
You must come with me to the town close by;
You must see the church where our vows were said,
And the mound that covers the restful dead.
For my love is sleeping the quiet sleep
That the Shepherd gives to His wearied sheep—
And the world is not what it used to be,
Ere its sunlight faded for her and me.

NANNIE POWER O'DONOGHUE.

The Conductor of CHAMBERS'S JOURNAL begs to direct the attention of CONTRIBUTORS to the following notice:

1st. All communications should be addressed to the Editor, 339 High Street, Edinburgh.

2d. For its return in case of ineligibility, postage-stamps should accompany every manuscript.

3d. To secure their safe return if ineligible, ALL MANUSCRIPTS, whether accompanied by a letter of advice or otherwise, should have the writer's Name and Address written upon them in FULL.

4th. Offerings of Verse should invariably be accompanied by a stamped and directed envelope.

If the above rules are complied with, the Editor will do his best to insure the safe return of ineligible papers.

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